

Thus, the most recently entered keystroke is ignored, and display screen 102 remains unchanged. In one embodiment, the invention provides auditory feedback such as a beep, or visual feedback such as a dialog box, to inform the user that the keystroke was ignored.

[0096] In one embodiment, steps 303, 304, 306, and 307 are performed by string handler 402, which may be a software module within device 100.

[0097] If the user enters additional character input 309, the invention returns to step 301 to process the additional keystrokes. If the user indicates some other command (such as selecting a displayed record, or providing a "dial" command, or selecting another operation entirely), the appropriate action is performed 314 and the method ends 315. If appropriate, additional operations may take place. For example, if the user selects a displayed record, a directory lookup module 407 may obtain more detailed information from directory 403 for display (such as postal address, e-mail address, and the like). If the user indicates a "dial" command, either numeric dial string 404 or the telephone number associated with a selected directory record is provided to dialer 408. Dialer 408 may be a software module for initiating a dialing operation. Telephone 409, which may be an integrated module in device 100, may then be activated so as to allow the user to communicate with the called party.

[0098] In one embodiment, when the user presses backspace key 203, the most recently entered keystroke is deleted. The invention then continues with steps 306, 307, 308, 303, 304, 316, 305, 309, and 314 as described above.

[0099] Referring now to Fig. 3C, there is shown a flowchart depicting operation of the present invention according to one embodiment, where a direct-dial operation is initially assumed. One skilled in the art will recognize that the flowchart of Fig. 3C is merely exemplary, and that other methods for implementing the invention may be used.

[0100] The user presses keys on keyboard 101 (or provides character input via some other character input device). Upon receipt of such keystroke input 301, the invention adds 302 the value of the pressed key to a stored lookup string. In one embodiment, the lookup string may be initialized as a null string prior to step 301. In one embodiment, step 302 and subsequent steps of Fig. 3C may be performed in response to each individual keystroke. In an alternative embodiment, the invention attempts to perform step 302 and subsequent steps of Fig. 3C in response to each keystroke, but if the user rapidly enters a sequence of keystrokes, the invention may wait until an appropriate pause in the sequence, or until a predetermined number of keystrokes are received, before proceeding with step 302 and subsequent steps of Fig. 3C. In another alternative embodiment, the invention performs step 302 and subsequent steps of Fig. 3C after completion of a keystroke sequence, or when the user pauses in entering keystrokes, or when the user enters a command specifying that the determination of operation should take place.

[0101] In one embodiment, the lookup string contains primary values of keys (such as alphabetic values, for example). In another embodiment, some coding mechanism is employed to indicate which keys are pressed, so that a coded string is formed that can later be decoded and interpreted as appropriate. If, when step 302 is to be performed, no lookup string yet exists, it may be initialized upon receipt of the first keystroke input 301. Alternatively, a null string may be initialized before commencing the method of Fig. 3C. Once a lookup string has been established, it is stored, for example, in buffer 401 or in any other mechanism for storing strings of data.

[0102] After the stored lookup string has been established or modified by the addition of a new keystroke value in step 302, the invention attempts 303 to convert the lookup string to a numeric dial string 404. As described above, in one embodiment, the conversion attempt 303 is performed by string handler 402.

[0103] The invention determines 304 whether the lookup string was successfully converted to a numeric dial string 404. If so, the invention displays 305 numeric dial string 404, for example on display screen 102, and proceeds to step 309. In one embodiment, numeric dial string 404 is displayed in a portion of screen 102 that is used for dialing in progress.

[0104] If, in 304, the lookup string cannot be converted to a numeric dial string (for example, if the lookup string contains at least one character that does not correspond to a key 202 having a numeric secondary value), then the inven-